

## VL MaterialsCalc Software for the Determination of Integral Optical Materials Data with a Thermo Electron UV/Vis Spectrophotometer

VL MaterialsCalc is designed for the determination of a variety of integral material data to be calculated from the sample spectrum. These can be light transmittance values, the Haze coefficient or UV protection data.

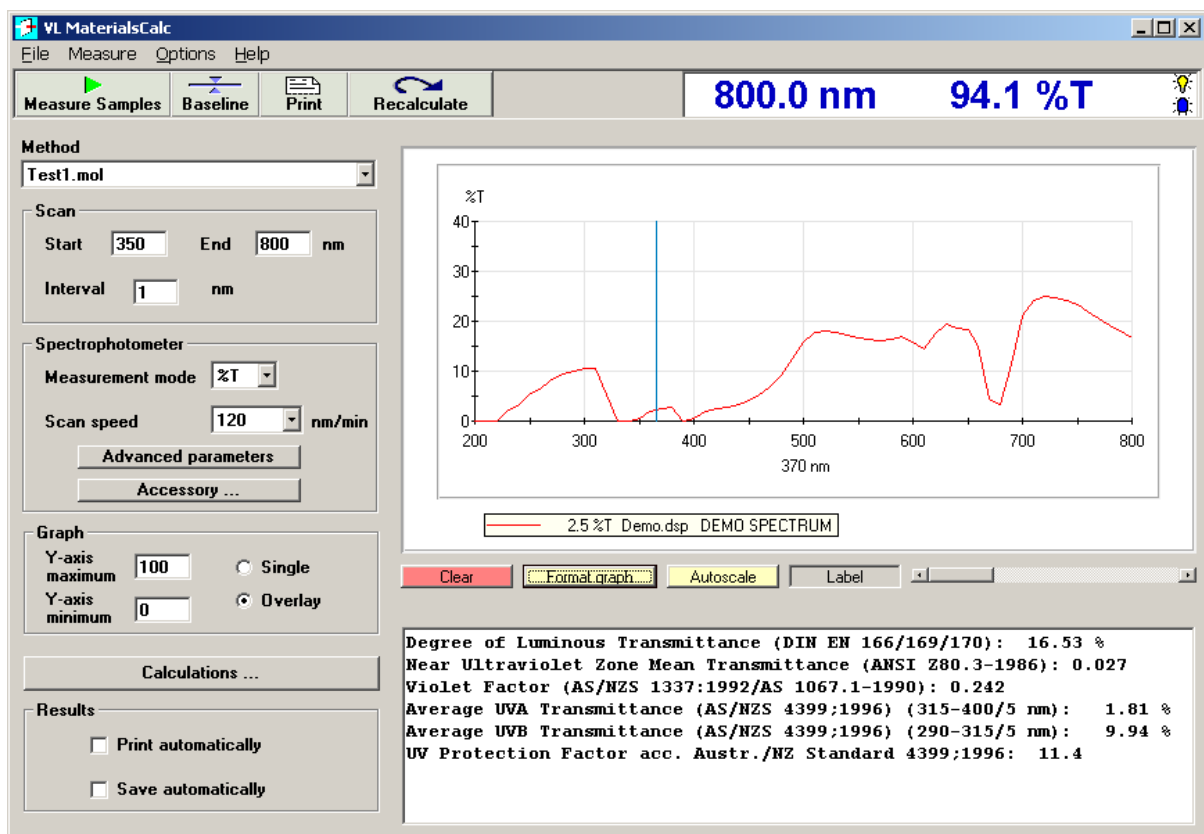
VL MaterialsCalc is a MS Windows® software package to communicate with a Thermo Electron UV/Vis spectrophotometer of the Genesys®, Helios® and Evolution series. It can be used as an add-on to the Thermo Electron VISIONlite® UV/Vis applications software.

VL MaterialsCalc records the required transmittance or reflectance sample spectrum and performs any required number of calculations with the spectrum data. Generally the available calculations are derived from national and international norms and standards like DIN, ISO, ANSI, JIST, etc..

Calculations can either be done automatically after spectrum recording or offline with stored spectra. The software can import and export VISIONlite and JCAMP spectra as well as tabular data.

- ✓ UV- and light transmittance coefficients acc. EN, ANSI, JIST etc.
- ✓ Haze calculation
- ✓ UV- and NIR-protection coefficients
- ✓ Solar protection factor acc. COLIPA and AS/NZS
- ✓ Check against high/low data and high/low reference spectra
- ✓ Definable calculations and decisions with spectra data and user entries
- ✓ and many others.

Calculation parameters are summarized as a method together with measurement parameters: The method determines the type of calculations, details of result output (like automatic printout or graph scaling) and the type of sample thickness transformation. Methods are stored under selected names for easy usage in a routine environment. Sophisticated evaluation can thus be performed with a few mouse clicks.



VL MaterialsCalc main window

### Sample Thickness Transformation

To characterize transparent materials it may become necessary to generate results for a standard sample thickness. The sample thickness recalculation of an actual sample spectrum can be based on a single reflectance value, on the material's refractive index or on a full single-surface reflectance spectrum.

### Haze Measurement

VL MaterialsCalc allows you to easily determine the haze value of a sample. When the parameter is selected, the system prompts the user to measure the background, the scattered and the directed transmittance and the dark value. It then automatically calculates the haze value from the spectra according to the respective norm.

### High/Low Comparisons

Besides the various integral parameters, VL MaterialsCalc as well allows comparing a sample spectrum to a table of minimum and maximum data or to given high/low reference spectra.

### Mathematical Calculations and Decisions

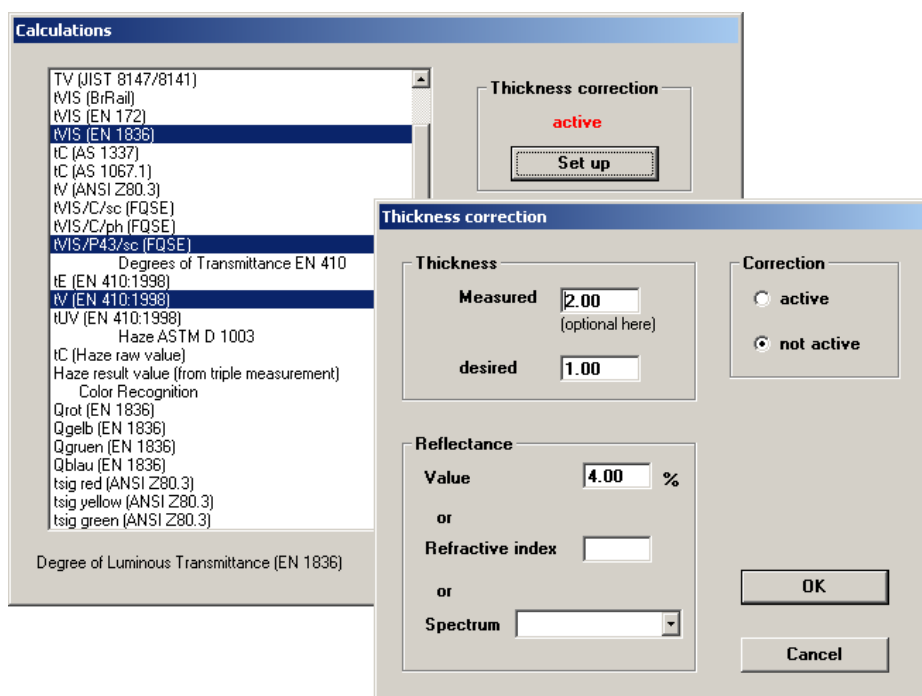
VL MaterialsCalc performs definable calculations and logical decisions with data of the spectrum or several spectra. The user can be queried for variable entries. Thus standard spectrum evaluations can be additionally implemented.

### Configuring VL MaterialsCalc

Users can modify the list of available calculations: calculation options can be removed and can be extended, based on the available algorithms. It is also possible to change the naming of the predefined calculations and the format and unit of figures.

### Report Configuration with Reporter-SPX

The additional installation of the *ascanis* Reporter-SPX Software allows configuring the report in many aspects, for example to define the spectrum diagram in size, color and appearance or to add additional texts and company logo.



*VL MaterialsCalc parameter selection and thickness correction windows*

System requirements: MS Windows 95/2000/XP

Thermo Electron, VISIONlite and the spectrophotometer brands are registered trademarks of Thermo Electron, Inc.  
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*ascanis* provides and supports applications software for instrumental analysis. Please contact us if you have a need for dedicated solutions.

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